



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Notice: 13-032

Centennial Challenges: 2014 Night Rover Challenge

AGENCY: National Aeronautics and Space Administration (NASA).

ACTION: Notice of Centennial Challenges 2014 Night Rover Challenge.

SUMMARY: This notice is issued in accordance with 51 U.S.C. 20144(c).

The 2014 Night Rover Challenge is scheduled and teams that wish to compete may register.

Centennial Challenges is a program of prize competitions to stimulate innovation in technologies of interest and value to NASA and the nation. The 2014 Night Rover Challenge is a prize competition designed to encourage development of new energy storage technologies or application of existing storage technologies in unique ways for application in extreme space environments. Competitors will need to demonstrate high energy density storage systems (>330w-hr/kg) that would enable a rover to operate throughout lunar darkness cycles.

Cleantech Open of Palo Alto, California administers the Challenge for NASA. NASA is providing the \$1,500,000 prize purse.

DATES: 2014 Night Rover Challenge will be held January 20-April 4, 2014.

ADDRESSES: 2014 Night Rover Challenge will be conducted at the NASA Glenn Research Center, Plumbrook Station located in Sandusky, OH.

FOR FURTHER INFORMATION:

To register for or get additional information regarding the 2014 Night Rover Challenge, please visit: <http://nightrover.org>

For general information on the NASA Centennial Challenges Program please visit:

www.nasa.gov/challenges. General questions and comments regarding the program should be

addressed to Dr. Larry Cooper, Centennial Challenges Program, NASA Headquarters 300 E Street SW, Washington, DC, 20546-0001. Email address:larry.p.cooper@nasa.gov.

SUPPLEMENTARY INFORMATION:

Summary

Solar energy is a renewable source that would be available on the Moon and at other destinations in space. To enable practical system demonstrations of diverse design solutions by independent teams, Phase I of this Challenge will be conducted in an ambient Earth environment in a NASA test chamber. The Phase I Challenge will be to demonstrate a portable energy storage system through two cycles of lunar daylight and darkness. During the daylight period, systems will receive electrical energy from a simulated solar collector. During darkness, the stored energy will be used for simulated tasks of thermal management, scientific experimentation, communications, and rover movement. The competitors may store and extract the energy by any means they desire. The winning system will be the one that has the highest energy storage density in excess of 330 Watt-hours/kg. The available prize purse is \$1.5 million.

A planned future Phase II Challenge will entail testing energy storage systems in NASA thermal and thermal-vacuum chambers to demonstrate applicability to the space and lunar environment.

I. Prize Amounts

The total Night Rover Challenge purse is \$1,500,000 (one million five hundred thousand U.S. dollars). Prizes will be offered for entries that meet specific requirements detailed in the Night Rover Challenge Rules.

II. Eligibility

To be eligible to win a NASA prize, competitors must 1) register and comply with all requirements in the rules and team agreement; 2) in the case of a private entity, shall be

incorporated in and maintain a primary place of business in the United States, and in the case of an individual, whether participating singly or in a group, shall be a citizen or permanent resident of the United States; and (3) shall not be a Federal entity or Federal employee acting within the scope of their employment.

III. Rules

The NASA prize purse will be awarded to the energy storage systems with the highest energy density that meet all requirements of the competition. The complete rules and team agreement for the 2014 Night Rover Challenge can be found at: <http://nightrover.org>

Dated: March 26, 2013.

Michael J. Gazarik
Associate Administrator
Space Technology Mission Directorate
National Aeronautics and Space Administration

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